

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 23 FEB 2005

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Applicant's or agent's file reference LW8074PC	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/KR 2003/002087	International filing date (<i>day/month/year</i>) 10 October 2003 (10.10.2003)	Priority Date (<i>day/month/year</i>) 18 November 2002 (18.11.2002)
International Patent Classification (IPC) or national classification and IPC IPC⁷: G02F 1/1335, 1/13357, G02B 6/00		
Applicant SAMSUNG ELECTRONICS CO., LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examination Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 4 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of _____ sheets.

3. This report contains indications relating to the following items:

- I. ☒ Basis of the opinion
- II. ☐ Priority
- III. ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV. ☐ Lack of unity of invention
- V. ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI. ☐ Certain documents cited
- VII. ☐ Certain defects in the international application
- VIII. ☐ Certain observations on the international application

Date of submission of the demand 15.03.2004	Date of completion of this report 14 February 2005 (14.02.2005)
Name and mailing address of the IPEA/AT Austrian Patent Office Dresdner Straße 87 A-1200 Vienna Facsimile No. 1/53424/200	Authorized officer GRONAU E. Telephone No. 1/53424/320

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/KR 2003/002087

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed

☐ the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____.

☐ the claims:

pages _____, as originally filed

pages _____, as amended (together with any statement) under Article 19

pages _____, filed with the demand

pages _____, filed with the letter of _____.

☐ the drawings:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____.

☐ the sequence listing part of the description:

pages _____, as originally filed

pages _____, filed with the demand

pages _____, filed with the letter of _____.

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____.

☐ the claims, Nos. _____.

☐ the drawings, sheets/fig _____.

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as „originally filed“ and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/KR 2003/002087

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement			
Novelty (N)	Claims	9, 16, 23	YES
	Claims	1-8, 10-15, 17-22, 24, 25	NO
Inventive step (IS)	Claims	----	YES
	Claims	1-25	NO
Industrial applicability (IA)	Claims	1-25	YES
	Claims	----	NO

Citations and explanations (Rule 70.7)

The following documents have been cited in the Search Report:

D1: US5959711A
D2: US5321789A
D3: EP0523987A1
D4: WO2002/006865 A2

D1 relates to fiber-optic faceplate (optical sheet) for a matrix addressed colour LCD apparatus comprising a plurality of fiber optic pipes. Each of the fiber optic pipes consists of a first medium (cladding of the optic fiber having a first reflective index) and a second medium (core of the optic fiber) filled in the light guide path of the first medium and having a second reflective index. The faceplate is arranged between a first region which is a light-generating region, and a second region which is a display region, so as to transmit light from the first region to the second region. It lies within the scope of the disclosure of D1 that the second region is a light processing region (see e.g. Fig.8 or 9). The centers of the light guide pathways are arranged in a triangular shape and the first reflective index is greater than the second reflective index. Each light guide pathway has a first length as characterized in claim 5 of the present application. The individual optic fibers are fused together with appropriate cladding materials and then cut and polished to the desired length. They preferably have a cylindrical shape but may have any other suitable shape.

Therefore, the subject matter of claims 1-3, 5-8, 10-15, 17-22, 24 and 25 is anticipated by the disclosure of D1.

D2 relates to a projection display apparatus comprising an optical sheet (plate) arranged between a backlight assembly and a display region (projection screen). According to a first embodiment shown in Fig. 1-3, the optical sheet is a light guide plate made of e.g. plastic material, and has a plurality of apertures. The apertures are filled with a second medium (air) having a refractive index of 1 and may be of a

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Box V (page 1)

rectangular or a cylindrical shape. According to a second embodiment shown in Fig. 5-7, the optical sheet is a fiber optic plate comprising fiber optic pipes which may have a hexagonal or another shape. The apertures or fiber optic pipes are formed corresponding to each of the pixel electrodes.

Hence, the subject matter of claims 1-8, 11, 12, 19-22 and 24 of the application is anticipated by the disclosure of D2. A combination of D1 and D2 renders the subject matter of claim 23 obvious.

D3 discloses a fiber optic faceplate comprising a plurality of fiber optic pipes arranged in close proximity and molded into a flat panel shape. The core of the optic fibers consists of PMMA. It is therefore considered obvious by this state of the art to select PMMA or a similar material as the material for the fiber optic pipes as claimed in claim 9 of the application since PMMA is a material commonly used in fiber optic technology. This feature does not include an inventive step.

D4 discloses an optical plate employing an array of aligned optical waveguides. In one embodiment the waveguides are aligned coated optical fibers which are adhered to each other by an adhesive. As shown in Fig. 8A to 8E, the axes of the optical fibers are arranged in a rectangular shape. In an alternative embodiment hollow waveguides are used instead of optical fibers. That means that "the second medium being filled in the light guide path of the first medium" has a reflective index of 1. In a further embodiment an optical channel plate is machined from a block of material wherein bores are drilled. The internal surfaces of the bores may be coated with a reflective coating.

A combination of D1 and D4 renders the subject matter of claim 16 therefore obvious.

According to what was set out above, the subject matter of claims 1-8, 10-15, 17-22, 24 and 25 of the present application is not new and does not involve an inventive step. The subject matter of claims 9, 16 and 23 is new but does not involve an inventive step.